**Assignment - 3 A Job Ready Bootcamp in C++, DSA and IOT MySirG**

**Decision Control Statements**

**1. Write a program to check whether a given number is positive or non-positive.**

**Ans-**

#include<stdio.h>

int main()

{

int n;

printf("Please Enter a Number ");

scanf("%d",&n);

if(n>0)

{

printf("%d is POSITIVE",n);

}

else

{

printf("%d is NON-POSITIVE",n);

}

return 0;

}

**2. Write a program to check whether a given number is divisible by 5 or not**

**Ans-**

#include<stdio.h>

int main()

{

int n;

printf("Please Enter a Number ");

scanf("%d",&n);

if(n%5)

{

printf("%d is NOT-DIVISIBLE BY 5",n);

}

else

{

printf("%d is DIVISIBLE BY 5",n);

}

return 0;

}

**3. Write a program to check whether a given number is an even number or an odd**

**number.**

**Ans-**

#include<stdio.h>

int main()

{

int n;

printf("Please Enter a Number ");

scanf("%d",&n);

if(n%2)

{

printf("%d is ODD",n);

}

else

{

printf("%d is EVEN",n);

}

return 0;

}

**4. Write a program to check whether a given number is an even number or an odd**

**number without using % operator.**

**Ans-**

#include<stdio.h>

int main()

{

int n;

printf("Please Enter a Number ");

scanf("%d",&n);

if((n/2)\*2==n)

{

printf("%d is EVEN",n);

}

else

{

printf("%d is ODD",n);

}

return 0;

}

**5. Write a program to check whether a given number is a three-digit number or not.**

**Ans-**

#include<stdio.h>

int main()

{

int n;

printf("Please Enter a Number ");

scanf("%d",&n);

if(n>=100 && n<=999)

{

printf("%d is 3-DIGIT NUMBER",n);

}

else

{

printf("%d is NOT A 3-DIGIT NUMBER",n);

}

return 0;

}

**6. Write a program to print greater between two numbers. Print one number of both are the same.**

**Ans-**

#include<stdio.h>

int main()

{

int n1,n2;

printf("Please Enter First Number ");

scanf("%d",&n1);

printf("Please Enter Second Number ");

scanf("%d",&n2);

if(n1>n2)

{

printf("%d is GREATER ",n1);

}

else if(n1<n2)

{

printf("%d is GREATER ",n2);

}

else

{

printf("%d is SAME",n1);

}

return 0;

}

**7. Write a program to check whether roots of a given quadratic equation are real &**

**distinct, real & equal or imaginary roots**

**Ans-**

#include<stdio.h>

#include<math.h>

int main()

{

int a,b,c,d;

printf("Enter Cofficient of X^2 , x and constant term");

scanf("%d%d%d",&a,&b,&c);

d=b\*b-4\*a\*c;

if(d<0)

{

printf("Both Roots Are Imaginary");

}

else if(d==0)

{

printf("Both Roots Are Equal");

}

else

{

printf("Roots are Real and Distinct");

}

return 0;

}

**8. Write a program to check whether a given year is a leap year or not.**

**Ans-**

#include<stdio.h>

int main()

{

int year;

printf("Please Enter Any Year ");

scanf("%d",&year);

if(year%4)

{

printf("%d is a NON-LEAPYEAR",year);

}

else if(year%100)

{

printf("%d is a LEAPYEAR ",year);

}

else if(year%400)

{

printf("%d is a NON-LEAPYEAR ",year);

}

else

{

printf("%d is a LEAPYEAR ",year);

}

return 0;

}

**9. Write a program to find the greatest among three given numbers. Print number once if the greatest number appears two or three times.**

**Ans-**

#include<stdio.h>

int main()

{

int a,b,c,result;

printf("Enter three number ");

scanf("%d%d%d",&a,&b,&c);

result=a>b ? a>c ? a : c : b>c ? b : c;

printf("%d is greater",result);

return 0;

}

**10. Write a program which takes the cost price and selling price of a product from the**

**user. Now calculate and print profit or loss percentage.**

**Ans-**

#include<stdio.h>

int main()

{

float sp,cp,p;

printf("Enter the Cost Price ");

scanf("%g",&cp);

printf("Enter the Selling Price ");

scanf("%g",&sp);

p=sp-cp;

if(cp>sp)

{

printf("Loss %% =%g",p/cp\*100);

}

else

printf("Profit %% =%g",p/cp\*100);

return 0;

}

**11. Write a program to take marks of 5 subjects from the user. Assume marks are given out of 100 and passing marks is 33. Now display whether the candidate passed the examination or failed.**

**Ans-**

#include<stdio.h>

int main()

{

int sub1,sub2,sub3,sub4,sub5;

printf("Enter the Marks of First Subject ");

scanf("%d",&sub1);

printf("Enter the Marks of Second Subject ");

scanf("%d",&sub2);

printf("Enter the Marks of Third Subject ");

scanf("%d",&sub3);

printf("Enter the Marks of Forth Subject ");

scanf("%d",&sub4);

printf("Enter the Marks of Fifth Subject ");

scanf("%d",&sub5);

if(sub1>=33&&sub2>=33&&sub3>=33&&sub4>=33&&sub5>=33)

printf("YOU ARE PASSED");

else

printf("YOU ARE FAILED");

getch();

}

**12. Write a program to check whether a given alphabet is in uppercase or lowercase.**

**Ans-**

#include<stdio.h>

int main()

{

char c;

printf("Enter Any Character ");

scanf("%c",&c);

if(c>='A'&& c<='Z' )

{

printf("%c is in UPPER CASE",c);

}

else if(c>='a'&&c<='z')

{

printf("%c is in LOWER CASE",c);

}

else

{

printf("%c is not an alphabet",c);

}

return 0;

}

**13. Write a program to check whether a given number is divisible by 3 and divisible by 2.**

**Ans-**

#include<stdio.h>

int main()

{

int n;

printf("Enter a Number");

scanf("%d",&n);

if(n%3==0 && n%2==0)

printf("%d is divisible by 2 and 3",n);

else

printf("%d is not divisible by 2 and 3",n);

return 0;

}

**14. Write a program to check whether a given number is divisible by 7 or divisible by 3.**

**Ans-**

#include<stdio.h>

int main()

{

int n;

printf("Enter a Number");

scanf("%d",&n);

if(n%3==0 && n%2==0)

printf("%d is divisible by 2 and 3",n);

else

printf("%d is not divisible by 2 and 3",n);

return 0;

}

**15. Write a program to check whether a given number is positive, negative or zero.**

**Ans-**

#include<stdio.h>

int main()

{

int n;

printf("Enter a Number ");

scanf("%d",&n);

if(n>0)

printf("%d is Positive",n);

else if(n<0)

printf("%d is Negative",n);

else

printf("%d is Zero",n);

return 0;

}

**16. Write a program to check whether a given character is an alphabet (uppercase), an**

**alphabet (lower case), a digit or a special character.**

**Ans-**

#include<stdio.h>

int main()

{

char c;

printf("Enter Any Character ");

scanf("%c",&c);

if(c>='A'&& c<='Z' )

{

printf("%c is in UPPER CASE ALPHABET",c);

}

else if(c>='a'&&c<='z')

{

printf("%c is in LOWER CASE ALPHABET",c);

}

else if(c>='0' && c<='9')

{

printf("%c is a DIGIT",c);

}

else

{

printf("%c is a SPECIAL CHARACTER5",c);

}

return 0;

}

**17. Write a program which takes the length of the sides of a triangle as an input. Display whether the triangle is valid or not.**

**Ans-**

#include<stdio.h>

int main()

{

int s1,s2,s3;

printf("Enter the first side of triangle ");

scanf("%d",&s1);

printf("Enter the second side of triangle ");

scanf("%d",&s2);

printf("Enter the third side of triangle ");

scanf("%d",&s3);

if(s1+s2>s3 && s1+s3>s2 && s2+s3>s1)

printf("VALID TRIANGLE");

else

printf("INVALID TRIANGLE");

return 0;

}

**18. Write a program which takes the month number as an input and display number of**

**days in that month**

**Ans-**

#include<stdio.h>

int main()

{

int m;

printf("Enter Month Number ");

scanf("%d",&m);

if(m==1)

printf("31 Days");

else if(m==2)

printf("28 Days");

else if(m==3)

printf("31 Days");

else if(m==4)

printf("30 Days");

else if(m==5)

printf("31 Days");

else if(m==6)

printf("30 Days");

else if(m==7)

printf("31 Days");

else if(m==8)

printf("31 Days");

else if(m==9)

printf("30 Days");

else if(m==10)

printf("31 Days");

else if(m==11)

printf("30 Days");

else if(m==12)

printf("31 Days");

else

printf("Please Enter Correct Month Number");

return 0;

}